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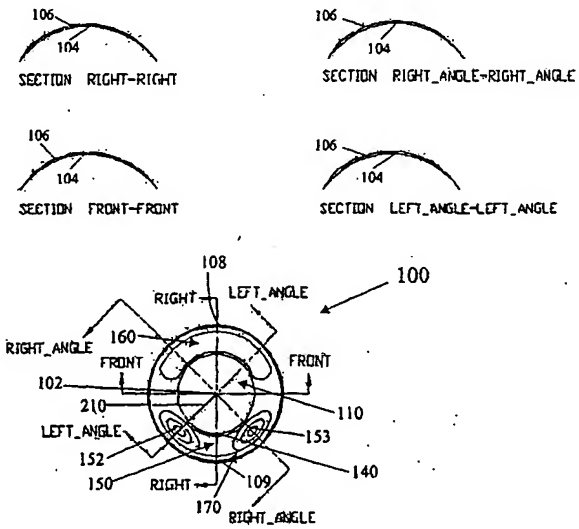
(54) Title: METHOD OF MANUFACTURING A CONTACT LENS



(57) Abstract: The present invention provides a method for converting a desired lens design to a geometry of a contact lens, preferably a customized contact lens or a contact lens having a complex surface design, to be produced in a computer-controlled manufacturing system. The method comprises: providing a lens design of a contact lens having a central axis, an anterior surface and an opposite posterior surface; projecting a predetermined number of points within a predetermined surface tolerance onto a surface of the lens design along each of a desired number of evenly-spaced semi-diameter spokes, each spoke radiating outwardly from the central axis; and for each of the spokes, generating a semi-meridian which is continuous in first derivative and includes a series of arcs and optionally straight lines, wherein each arc is defined by fitting at least three consecutive points into a spherical mathematical function within a desired concentricity tolerance, wherein each of the straight lines is obtained by connecting at least three consecutive points.

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